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Flying drones using mind control. By: Whyte, Chelsea. New Scientist. 9/29/2018, Vol. 239 Issue 3197, p9-9. 1/4p. Abstract: The article discusses how a research team from the Indian Institute of Science in Bangalore, India trained 14 individuals to operate multirotor drone aircraft using electroencephalography (EEG) headsets and an algorithm that can read human brainwaves, and it mentions gamma waves. DOI: 10.1016/S0262-4079(18)31737-8. (*AN: 131973144*)

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Flying drones using mind control

I THINK, therefore I fly. Headsets that read brainwaves are being used to control drones, letting us fly machines with just our thoughts.

A team from the Indian Institute of Science in Bangalore trained 14 people to operate a multirotor drone using EEG headsets, devices that use small electrodes to measure the electrical activity in your brain.

There have been other attempts to control multirotor drones using thought, but Subbaram Omkar, who led the research, believes the new system is accurate enough to operate fixed-wing drones - something that has never been done before.

Such aircraft require more control because they move through the air continuously, whereas multicoptor drones can hover, for instance while awaiting a command. Other systems that translate brain activity into drone motion cannot perform quickly enough to control a high-speed vehicle, says Omkar.

To pilot the drones, people were asked to imagine, but not carry out, four physical actions: moving their left or right hand, and moving their left or right fingers and elbow. These thought processes activate the sensory and motor cortex, even without moving any body parts. Each was tied to a particular drone action.

An algorithm read the brain waves at 90 hertz. This corresponds to the frequency of gamma waves, which are thought to be associated with perception. When a thought pattern was clear enough, it was used to steer the drone in mid-air.

Depending on the pilot, the algorithm interpreted instructions from brainwaves with an accuracy of between 77 and 98 per cent (arxiv. org/abs/1809.00346).

This accuracy is partly thanks to developments in AI that are having a big impact on the ability to interpret brain signals.

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By Chelsea Whyte
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